Claims

What is claimed is:

1. A cooling device for a battery pack, comprising a cooling medium feeding device for feeding a cooling medium to a cooling medium path in a battery pack including a plurality of rechargeable batteries arranged in parallel so as to interpose the cooling medium path therebetween, wherein

the cooling device comprises a heat pipe an end of which is thermally connected to a downstream side of the battery pack in a flow direction of the cooling medium, and the other end of which is placed so as to be exposed in a portion of the battery pack having a lower temperature than the downstream side.

2. The cooling device for a battery pack according to claim 1, wherein

the battery pack is configured such that the plurality of rechargeable batteries, each of which is a prismatic battery having rectangular long side faces and composed of a plurality of cells arranged along a longitudinal direction of the long side faces of the rechargeable battery, are arranged in parallel so as to interpose the cooling medium path between the long side faces of the rechargeable batteries, and

the cooling medium feeding device feeds the cooling medium along the longitudinal direction of the long side faces of the rechargeable batteries to the cooling medium path.

3. The cooling device for a battery pack according to claim 1, wherein

a thermally conductive member is attached to the downstream side of the battery pack in the flow direction of the cooling medium; and

the one end of the heat pipe is fixed to the thermally conductive member, whereas the other end of the heat pipe is exposed in a flow path of the cooling medium fed by the cooling medium feeding device.

4. The cooling device for a battery pack according to claim 3, wherein

the thermally conductive member is attached to an end face of the battery pack on the downstream side in the flow direction of the cooling medium; and

the other end of the heat pipe is exposed in an external cooling medium path formed outside one of end plates provided at both ends of the battery pack in a direction in which the rechargeable batteries are arranged.

5. The cooling device for a battery pack according to claim 3, wherein

the thermally conductive member is attached to the downstream side of a side face of the battery pack in the flow direction of the cooling medium, the side face extending along the flow direction of the cooling medium and being adjacent to side faces at both ends of the battery pack in a direction in

which the rechargeable batteries are arranged;

a heat insulating material is attached to the upstream side of the side face in the flow direction of the cooling medium; and

the other end of the heat pipe is exposed in an external cooling medium path formed outside one of end plates provided at both ends of the battery pack in the direction in which the rechargeable batteries are arranged.

6. The cooling device for a battery pack according to claim 4 or 5, wherein

the external cooling medium path is made of a foamed heat insulating material attached to an outer face of one of the end plates.

7. The cooling device for a battery pack according to claim 2, wherein

a thermally conductive member is attached to a nearly entire side face of the battery pack, the side face extending along the flow direction of the cooling medium and being adjacent to side faces at both ends of the battery pack in a direction in which the rechargeable batteries are arranged; and

the heat pipe is fixed to the thermally conductive material along the flow direction of the cooling medium.

8. The cooling device for a battery pack according to claim 3 or 7, wherein

the thermally conductive member comprises: a metal plate to which the heat pipe is attached; and an insulating thermally conductive sheet interposed between the metal plate and the rechargeable batteries.